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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,559	12/18/2001	Kalle Asikainen	460-010760-US(PAR)	2670
2512	7590	06/17/2005	EXAMINER	
PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824			JAMAL, ALEXANDER	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/023,559	ASIKAINEN ET AL.	
	Examiner	Art Unit	
	Alexander Jamal	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10-22-2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS 12-18-2001.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-^{6, 9, 10}** rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (specification pages 1,2), and further in view of Heck (5079526).

As per **claim 1**, applicant's admitted prior art discloses a direct conversion receiver for carrier modulated signals. The receiver performing the method of mixing local oscillator signals to generate baseband signals which are then filtered via capacitors to filter out the DC component (specification pages 1,2). However, applicant's admitted prior art does not disclose offsetting the local oscillator frequency by an offset close to the difference between the carrier and a null frequency in order to center the notch at the zero frequency.

Heck teaches a radio, carrier modulated FM receiver. Heck teaches to offset the local oscillator frequency by the modulating frequency 124 (analogous to the 'chip rate' of a CDMA system) (Fig. 1). Heck teaches that this allows FM modulated data to be recovered by frequency shifting the data via the frequency-offset local oscillator and allowing the spurious signals at DC to be filtered. It would have been obvious to one of

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ordinary skill in the art at the time of this application that the prior art receiver disclosed by applicant could offset the local oscillator frequency for the purpose of recovering data transmitted at and around DC while allowing any DC-offset noise to be more easily eliminated.

As per **claim 2**, claim rejected for same reasons as claim 1 rejection. Applicant's admitted prior art (specification page 2) discloses that the received signal is split into in-phase and quadrature signals (via filtering means), and each signal is then demodulated and then DC filtered via capacitors. The oscillator in Heck is offset by the Fm signal frequency, which will put the zero frequency at a notch of the frequency sideband.

As per **claim 9**, claim rejected for same reasons as claim 2 rejection.

As per **claims 3,4,5,10**, applicant's specification discloses the use of capacitors to DC filter the demodulated I and Q signals.

As per **claim 6**, claim rejected for same reasons as claim 2.

3. **Claim 7**^{8A²}- rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (specification pages 1,2) and Heck (5079526), and further in view of Rapeli (6510313).

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As per **claim 7**, applicant's admitted prior art in view of Heck discloses claim 7 as per the rejections of claims 1-6 above. However they do not disclose that the direct conversion receiver is used in a GPS system.

Rapeli discloses that a CDMA direct conversion receiver system can be implemented as a GPS system. It would have been obvious to one of ordinary skill in the art at the time of this application that the direct conversion receiver may be used as a GPS receiver for the reason that the that the direct conversion receiver can successfully receive the carrier modulated CDMA signal used in the GPS system.

As per **claim 8**, claim rejected for same reasons as claim 3.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
June 9, 2005


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2500